

What is claimed is:

1. A variable-order delta sigma modulator comprising means that vary a combination of plural integrators constituting a delta sigma modulator to thereby vary an order of the delta sigma modulator, wherein the means vary the order of the delta sigma modulator into an optimum order in relation to a sampling frequency.

2. A variable-order delta sigma modulator having a construction that supplies quantization errors to next-stage integrators, comprising: means of disconnecting or connecting circuits, provided in connection parts to supply the quantization errors to the next stage integrators, and means of controlling the disconnecting or connecting means, whereby an order of the modulator is made variable.

3. A variable-order delta sigma modulator as claimed in Claim 1 or Claim 2, comprising a control means that switches the order of the modulator into an order optimum to a new sampling frequency, accompanied with the switching of the sampling frequency, on the basis of a table showing connections or disconnections of the integrators by the means that vary the order of the delta sigma modulator and the combination of plural integrators, and a table showing relations between the sampling frequencies and the optimum orders.

4. A DA converter comprising a delta sigma modulator as claimed in any of Claim 1 through Claim 3.